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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/927,424

08/09/2001

Edward Shipwash

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12/12/2003

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EXAMINER

STRZELECKA, TERESA E

ART UNIT

PAPER NUMBER

1637

14

DATE MAILED: 12/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/927,424

Applicant(s)

SHIPWASH, EDWARD

Examiner

Teresa E Strzelecka

Art Unit

1637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-60, 93-96 and 103 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 15, 16, 24-26, 38, 40 and 56-60 is/are rejected.
- 7) ☒ Claim(s) 7-14, 17-23, 27-37, 39, 41-55, 93-96, 103 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to an amendment filed on August 11, 2003. Claims 1-102 were previously pending, with claims 61-92 and 97-102 withdrawn from consideration. Claims 1-60 and 93-96 were rejected in the previous office action.
2. Applicants amended claims 1-3, 13, 17, 18, 22-25, 40, 51, 53, 56, 57 and 95, cancelled claims 61-92 and 97-102, and added new claim 103. Note that claim 56, even though amended, is listed as "original" (page 14).
3. Applicant's amendedments overcame the rejection of claims 1-55, 57 and 95 35 U.S.C. 112, second paragraph.
4. The declaration under 37 CFR 1.132 filed August 11, 2003 is sufficient to overcome the rejection of claims 1-38, 40-60, 93 and 96 under 35 U.S.C. 102 (a) based upon the Shipwash reference, rejection of claim 39 under 35 U.S.C. 103 (a) over Shipwash and VWR International, and rejection of claim 95 under 35 U.S.C. 103 (a) over Shipwash and Demandolx.
5. This office action is made non-final because of new grounds for rejection.

Claim interpretation

6. Before proceeding with the rejection, the following interpretation is provided:
 - A) The term "biomolecular recognition" is not defined by Applicant. Applicant defines a "biorecognition molecule" as one which preferentially binds to another molecule (specification, page 14, [80]), therefore "biomolecular recognition" is interpreted as any molecular binding event.
 - B) The term 'primary amino acid' is defined by Applicant on page 13, [73], and includes all amino acids commonly found in proteins.
 - C) The term "array", which is not defined by Applicant, is interpreted as any spatially resolved arrangement of molecules.

D) In claim 56, the limitations “for a detection of a primary amino acid in a sample” and “to form a first product” are intended uses of the array, therefore they do not provide any structural limitations for the array itself. Claim 57, which is drawn to a product formed on the array, does not provide structural limitations for the array itself, either (see MPEP 2114).

MPEP 2114.

**MANNER OF OPERATING THE DEVICE DOES NOT DIFFERENTIATE
APPARATUS CLAIM FROM THE PRIOR ART**

A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987) (The preamble of claim 1 recited that the apparatus was “for mixing flowing developer material” and the body of the claim recited “means for mixing ..., said mixing means being stationary and completely submerged in the developer material”. The claim was rejected over a reference which taught all the structural limitations of the claim for the intended use of mixing flowing developer. However, the mixer was only partially submerged in the developer material. The Board held that the amount of submersion is immaterial to the structure of the mixer and thus the claim was properly rejected.).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 1637

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-6, 15, 16, 24-26, 38 and 40 are rejected under 35 U.S.C. 102(e) as being anticipated by Tao et al. (U.S. Patent No. 6,221,640).

Regarding claim 1, Tao et al. teach a method for detection of a primary amino acid in a sample, the method comprising:

contacting said sample with an aminoacyl tRNA synthetase (aaRS) to form a first product (Tao et al. teach contacting a sample comprising a mixture of phenylalanine and other compounds with phenylalanyl- tRNA synthetase and forming a complex of phenylalanine- tRNA synthetase (=first product) (col. 33, lines 31-36 and 40-45).); and

specifically detecting said first product whereby said primary amino acid is specifically detected by biomolecular recognition (Tao et al. teach detecting phenylalanine by conversion to aminoacyl hydroxamate (col. 33, lines 54-67; col. 34, lines 1-8).).

Regarding claim 2, Tao et al. teach detecting inorganic phosphate (col. 19, lines 5-12).

Regarding claim 3, Tao et al. teach detecting aminoacyl-adenylate (col. 18, lines 52, 53).

Regarding claim 4, Tao et al. teach a sample comprising a mixture of amino acids (col. 33, lines 34, 35).

Regarding claim 5, Tao et al. teach aaRS immobilized on a column (= solid support) (col. 33, lines 37, 38).

Regarding claim 6, Tao et al. teach phenylalanine (col. 33, line 43).

Regarding claim 15, Tao et al. teach detecting aminoacyl-adenylate (col. 18, lines 52, 53), therefore Tao et al. teach direct detection of the first complex.

Regarding claim 16, Tao et al. teach detecting inorganic phosphate (col. 19, lines 5-12), therefore Tao et al. teach indirect detection of the first complex.

Regarding claim 24, Tao et al. teach quantitative detection of the amount of amino acid (col. 33, lines 54-67; col. 34, lines 1-9).

Regarding claim 25, Tao et al. teach contacting the testing of IleRS charging activity in a reaction mixture comprising IleRS, Ile and tRNAs and detecting the isoleucine-tRNA (col. 52, lines 29-49). Tao et al. do not specifically teach formation of the IleRS-Ile-AMP complex, but since the first reaction steps of amino acid charging is formation of such complex (col. 4, line 1), Tao et al. teach the steps of this claim.

Regarding claim 26, Tao et al. teach detection of Ile-tRNA (col. 52, lines 44-48).

Regarding claim 38, Tao et al. teach detection by spectrophotometry (col. 19, lines 18, 19; col. 34, lines 3, 4) and scintillation counting (col. 52, lines 48).

Regarding claim 40, Tao et al. teach quantitative detection of [³H]-labeled Ile (col. 52, lines 46-48).

9. Claims 56-60 are rejected under 35 U.S.C. 102(b) as being anticipated by Beaulande et al. (Nucl. Acids Res., vol. 26, pp. 521-524 (1998)).

Regarding claims 56 and 57, Beaulande et al. teach a spatial array, comprising:

spatially separated aminoacyl tRNA synthetases or spatially separated tRNAs for a plurality of the primary amino acids each at a known locus on said array (Beaulande et al. teach a western blot of a bacterial extract containing overexpressed human cytosolic asparaginyl-tRNA synthetase (hsAsnRSc) (Fig. 2). Beaulande et al. do not specifically teach different tRNA synthetases, but since lane 3 contains unpurified gel extract, all of the proteins expressed in E. coli are present, and are spatially separated by the electric field, therefore Beaulande et al. teach this limitation.);

means for contacting said sample with said spatially separated synthetases or spatially separated tRNAs to form a first product (Beaulande et al. teach contacting the western blot with human anti-KS serum (page 522, last paragraph; Fig. 2). Beaulande et al. do not specifically teach that a pipettor was used to transfer the serum onto the membrane, but since it was transferred, the pipettor would meet the limitation of means of contacting the array with a sample.).

Regarding claim 58, Beaulande et al. do not specifically teach all of the tRNA synthetases, but since lane 3 contains unpurified gel extract, all of the proteins expressed in *E. coli* are present, and are spatially separated by the electric field, therefore Beaulande et al. teach this limitation.

Regarding claim 59, Beaulande et al. do not specifically teach locations of all of the tRNA synthetases on the blot, with the exception of the hsAsnRSc, but since the other synthetases can be detected in the same way as hsAsnRSc, their location is known inherently, therefore Beaulande et al. teach this limitation.

Regarding claim 60, Beaulande et al. teach labeling of the hsAsnRSc-antibody complex with 35S-labeled protein A (page 522, last paragraph). Since Applicant does not define whether the label can be direct or indirect, therefore Beaulande et al. teach this limitation.

10. No references were found teaching or suggesting claims 7-14, 17-23, 27-37, 39, 41-55, 93-96 and 103. Claims 7-14, 17-23, 27-37, 39, 41-55, 93-96 and 103 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa E Strzelecka whose telephone number is (703) 306-5877. The examiner can normally be reached on M-F (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on (703) 308-1119. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

The examiner will move to the new office in Alexandria on January 8, 2004. The new phone number in that office is (571) 272-0789. Gary Benzion will move to the new office on January 22, 2004. His new phone number is (571) 272-0782.

TS
December 5, 2003



JEFFREY FREDMAN
PRIMARY EXAMINER